a1 Cont

presence of at least one indicator of neuronal cell differentiation to produce a plurality of dopaminergic, differentiated neuronal cells; and

c. minimally replating with a mitotic inhibitor to enrich for dopaminergic cells in the culture.

sub Cl

11. (amended) A dopaminergic neuronal cell, said cell comprising

a post-mitotic differentiated neuronal cell which expresses tyrosine hydroxylase and at least one other indicator of neuronal cell differentiation, said cell having undergone induction ex vivo from an undifferentiated neuronal progenitor cell.

a2

12. (amended) A human post-mitotic dopaminergic cell, said cell comprising a differentiated neuronal cell which expresses tyrosine hydroxylase and at least one other indicator of neuronal cell differentiation, said cell having undergone induction ex vivo from an undifferentiated human cell.

13. (amended) A human dopaminergic cell, the cell comprising an ex vivo differentiated human neuronal cell that expresses tyrosine hydroxylase and bcl-2, said cell being capable of synthesizing dopamine and having improved survival.

14. (amended) A method of improving the survival of human neuronal cells, said method comprising the steps of

a. providing a culture of human neuronal cells; and

b. adding a lithium salt to the human neuronal cell culture for a sufficient time to enhance expression of bcl-2.

15. (amended) A pharmaceutical dosage form of human non-fetal dopaminergic cells comprising

isolated, neuronal cells, the neuronal cells being capable of expressing tyrosine hydroxylase, D2 dopamine receptor and aldehyde dehydrogenase-2; and

a pharmaceutical diluent.

a3 sub Cl

17. (amended) The method of claim 14 wherein the lithium salt is lithium chloride.

sub Cl

19. (amended) A method of preparing human dopaminergic neuronal cells, the method comprising:

a4

a. providing NT2/D1 cells;

b. culturing NT2/D1 cells with an inducing agent for a time sufficient to optimize tyrosine hydroxylase (TH) expression therein; and

c. replating and culturing the TH-optimized cells in mitotic inhibitor.

20. The method of claim 19, additionally comprising the steps of

d. separating the TH-optimized cells from the replate culture;

e. replating the TH-optimized cells on a confluent feeder cell layer, the cell layer being chosen from cells which stabilize TH production; and

f. isolating the TH-optimized cells and stabilized cells from the replate medium.

21. (amended) A pharmaceutical composition comprising

isolated, post-mitotic neuronal cells, the neuronal cells expressing tyrosine hydroxylase (TH), D2 dopamine receptor, and aldehyde dehydrogenase-2;

cells capable of stabilizing TH production of the neuronal cells; and

a pharmaceutical diluent.

23. (new) The method of claim 20 wherein the cells which stabilize TH production comprise bone marrow stem cells, TM4 Sertoli cells, glioma cells, or a combination thereof.

24. (new) The method of claim 1 further comprising the additional step of

a. harvesting the dopaminergic neuronal cells.